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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,539	01/16/2004	Vinson Williams	012341	2847

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EXAMINER

RUSSELL, CHRISTINA MARIE

ART UNIT PAPER NUMBER

2837

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/761,539

Applicant(s)

WILLIAMS, VINSON

Examiner

Christina Russell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:
2. Hammer 86 and string length 44 are mentioned in reference to Figure 5 but are not shown in the drawing.
3. The strings 30 are mentioned in reference to Figure 6 but are not labeled.
4. The string line 32, separation distance 46 and the bridge 48 are mentioned in reference to Figure 7 but are either not shown or labeled in the drawing.
5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-6, 11-17 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by the US patent to Cunningham (6,740,800).

8. In terms of claim 1 Cunningham shows, in figure 1, a musical instrument, operated by a user, consisting of a body extending between a bridge, or string bank (3), and a head, where the strings are attached, and a partially extending neck in between. The instrument comprises multiple parallel strings secured between said head and bridge, and also comprises a keyboard overlay, or manifold. The keys of the keyboard are connected to hammers that are aligned at an acute angle to the strings and are positioned so as to make contact with said strings (see column 1, lines 14-16, column 2, lines 9-14 and claim 1 of the reference).

9. As for claim 2, Cunningham shows, in figure 3, that the hammers are directly connected to the keys of the keyboard.

10. As for claim 3, Cunningham teaches that at least one hammer can cause vibration to one of the multiple strings (see claim 1, column 3, lines 2-6).

11. As for claim 4, Cunningham teaches the ability to change the frequency of said strings at a reduced length (see reference claim 1, column 2, lines 60-61, column 3, lines 7-9 and claim 9, column 4, lines 27-28).

12. As for claim 5, Cunningham teaches the release of the hammer from the struck or clamped string (see column 1, lines 45-46, claim 1, lines column 3, lines 1-2 and claim 7, column 4, lines 9-11)

13. As for claim 6, Cunningham shows, in figure 1, that the keyboard overlay or manifold leaves the strings unobstructed so that it is possible for at least one of the strings to be directly played by the user.

14. As for claim 6, Cunningham teaches the instrument having a hollow resonant area or sound box (see reference claim 1, column 2, lines 50-53).

15. In terms of the second independent claim, claim 12, Cunningham again shows a musical instrument, which can be operated by a user, consisting of multiple parallel strings and a keyboard overlay with connected hammers. It can be seen from Figure 1 of Cunningham that the distance between said parallel strings is less than the distance between said keys on said keyboard.

16. As for claims 13-17 and 19, the claimed subject matter is rejected on the same basis as that of the prior claims dependent on claim 1, since claim 1 and claim 12 are rejected under the same logic.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham in view of the US patent to Evangelista (4,177,705).

19. Cunningham teaches all of the claimed elements dependent on claim 1, as disclosed above, except for the ability of the user to strum, pick or pluck the unobstructed parallel strings. Evangelista, in his description of a conventional guitar, teaches the ability to pick, pluck or strum multiple parallel strings with either a hand or finger or even a separate device such as a pick (see column 1, lines 35-43). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate Evangelista's prior knowledge of basic guitar playing to the teaches of Cunningham. Since Cunningham shows unobstructed parallel strings it would obvious to think that the user would use the opportunity to play those strings and would play them using basic stringed instrument techniques.

20. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham in view of the US patent to Murakami (4,091,702).

21. Cunningham teaches all the claimed elements, dependent upon claims 1 and 12, as disclosed above, but not the addition of electrical pickup to the instrument to sense

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vibrations and generate an electrical signal. Murakami, who also proposed a stringed musical instrument having a keyboard, however somewhat less portable, teaches these electrical pickup devices that detect vibrations and further generate an electrical signal through an amplifier (see abstract and column 1, lines 8-10). It would have been obvious to one of ordinary skill in the art, at the time of the invention to incorporate electrical pickups, which are already well known in the art of guitars and adopted them to a stringed instrument comprising a keyboard. Murakami shows such an adaptation and Cunningham shows a more portable acoustic version that can easily be modified with the addition of such devices.

Conclusion

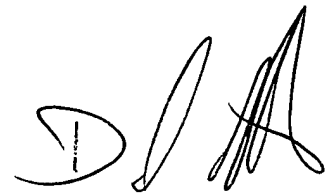
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Russell whose telephone number is 571-272-4350. The examiner can normally be reached on Mon-Fri, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CR
08/12/2005

A handwritten signature in black ink, appearing to read 'D. A. Martin', with a stylized, overlapping 'D' and 'A'.

DAVID MARTIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800